

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/080028 A1

(51) International Patent Classification⁷: **B22D 43/00**,
21/04, 27/00, B01D 35/02

(21) International Application Number:
PCT/CA2005/000248

(22) International Filing Date: 23 February 2005 (23.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/547,755 24 February 2004 (24.02.2004) US

(71) Applicant (for all designated States except US): **ALCAN
INTERNATIONAL LIMITED** [CA/CA]; 1188 Sher-
brooke Street West, Montreal, Québec H3A 3G2 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BELLEY, Luc**
[CA/CA]; 3483 Jo Fraser, Jonquière, Québec G7X 1G4
(CA). **BILODEAU, Jean-François** [CA/CA]; 3597

Angers, Jonquière, Québec G7X 2E2 (CA). **GENDRON,
André** [CA/CA]; 2496 Moffat, Jonquière, Québec G7S
4Z9 (CA). **MUNGER, Serge** [CA/CA]; 6389 Portage des
Roches-nord, Laterrière, Québec G7N 1Z9 (CA).

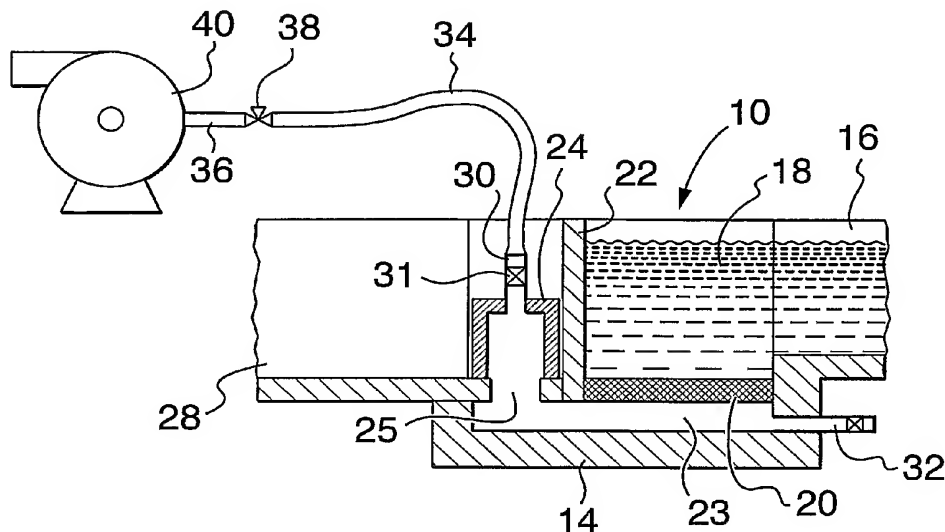
(74) Agents: **GALE, Edwin J.** et al.; KIRBY EADES GALE
BAKER, Box 3432, Station D, Ottawa, Ontario K1P 6N9
(CA).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: METHOD OF PRIMING FILTER FOR MOLTEN METAL



(57) Abstract: A method is described for priming an in-line molten metal filtration unit having a porous ceramic or refractory filter mounted substantially horizontally in a filter box. This filter box has an inlet for molten metal and an outlet for molten metal, the outlet being a closeable outlet in an exit well connecting to the downstream side of the filter. The method of the invention comprises the steps of adding a molten metal to the filter box sufficient to entirely cover the upstream side of the filter with a depth of molten metal and temporarily sealing the outlet in the exit well. A steadily increasing vacuum is then applied to the closed exit well at a rate between 0.1 and 10 kPa per second by withdrawing a stream of air from the exit well by means of a fan or air venturi until molten metal begins to flow through the filter. At that point the vacuum is quickly released and the molten metal outlet is opened. Once the filter has been primed in this manner, flow of metal through the filter continues while requiring only a relatively low head of molten metal on the inlet side of the filter.

WO 2005/080028 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*